

Diplax obtrusa Hagen. Clarence, N. Y., July 2d; Elma, N. Y., September 15th and Ridgeway, Ont., August 10th.

Diplax costifera Hagen. Common along a dusty roadway near a mill pond, in the town of Amherst, September 2, 1895. Not seen elsewhere.

Diplax vicina Hagen. This species with *rubicundula* and *obtrusa* occur together in low, wet meadows and along small streams, but *rubicundula* is here much the most abundant form. I have also taken *vicina* among the reeds on the shores of Lake Erie, at Point Abino.

Diplax corrupta Hagen. The immature of this large species were abundant on reedy shores of Lake Erie, at Point Abino, on August 31, 1896. In this state their rich fulvous color varied with black and pale green, and their glossy golden wings spread out to the sunlight, made them beautiful objects. When mature the colors become obscured and the insect is much less attractive.

Mesothemis simplicicollis Say. Quite abundant along Tonawanda Creek, August 12, 1896. Here the females were depositing their eggs on the confervæ near the shore. In doing this they hovered a few inches above the water, dipping to the surface at intervals of a few seconds with a rhythmic vibratory motion, each time bringing the tip of the abdomen in contact with the aquatic weeds that were to serve as a nidus for their eggs.

Pachydiplax longipennis Burm. Rare. A few examples were found in June, 1895, about the *Sagittaria* in Black Rock Harbor.

ADDITIONS TO THE ODONATA OF NEW YORK STATE.

BY PHILIP P. CALVERT, Philadelphia, Pa.

In this JOURNAL for March, 1895 (Vol. III, No. 1, pp. 39-48) I published a list, with notes, of all the species of Odonata known to me to inhabit New York State. Soon after, Dr. Lintner sent me notes on the Odonata in the State Collection at Albany, including many made by Dr. Hagen, and also a considerable number of unidentified dragonflies for determination. This material and the results of its study have been referred to by Dr. Lintner in his recently published Eleventh Report as State Entomologist, for 1895, p. 105, and are here marked (L.). Professor Kellicott has kindly sent me a few notes which are designated

(K.). References are made to the paper by Mr. Van Duzee, in this number of the JOURNAL on the dragonflies of Buffalo (VD.). The original list embraced 85 species; we now know 102 species and varieties as found in this State.

A. ADDITIONAL NOTES ON SPECIES PREVIOUSLY LISTED.

SUBFAMILY CALOPTERYGINÆ.

1. *Calopteryx maculata Beauvois*. Schenectady, July 14, 1875; July 12, 1877; common at Le Grange's Mills, Guilderland, Albany Co., June 24, 1893 (L.). Buffalo (VD.).

5. *Hetærina americana Fabr.* Albany Co. (L.).

SUBFAMILY AGRIONINÆ.

9. *Lestes uncata Kirby*. Buffalo (VD.).

11. *Lestes forcipata Rambur*. Schoharie (L.).

12. *Lestes rectangularis Say*. New Baltimore, Schoharie (L.). Buffalo (VD.).

13. *Argia putrida Hagen*. Schoharie (L.). Buffalo (VD.).

14. *Argia violacea Hagen*. Buffalo (VD.).

16. *Erythromma conditum Hagen*. Hamburgh (VD.).

18. *Amphiagrion saucium Burm.* Centre, now Karner (L.), Buffalo (VD.).

20. *Enallagma civile Hagen*. "New York," Hagen, 1861. The specimens from Saratoga Lake cited in my previous list belong to no. 21.

21. *Enallagma carunculatum Morse*, instead of "*Enallagma*; sp. n." In addition to the Saratoga Lake specimens mentioned under no. 20—Three males, one female, Lake Pleasant, July 29, 1887; one male, Piseco Lake, August 29, 1888 (L.). (P. P. Calvert det.). Niagara, etc. (VD.).

22. *Enallagma ebrium Hagen*. Schoharie (L.).

23. *Enallagma hageni Walsh*. Lake Bluff at Huron; Lake Pleasant, July 10, 1887; Albany, July 6 (P. P. Calvert det.) (L.) Squaw Is. (VD.).

27. *Enallagma exsulans Hagen*. Black Rock, etc. (VD.).

28. *Enallagma signatum Hagen*. Williamsville (VD.).

29. *Ischnura verticalis Say*. Schoharie (L.). Annandale, June 19th, by Mrs. C. W. Throop; recorded by Dr. Lintner, 11th Rep. State Ent. N. Y., p. 288. Buffalo (VD.).

SUBFAMILY GOMPHINÆ.

34. *Ophiogomphus rupinsulensis* *Walsh*. Schoharie (L.).
36. *Gomphus brevis* *Hagen*. Schoharie (L.). Dr. Hagen's note on the specimen, according to Dr. Lintner, is "Possibly *G. quadricolor* of Walsh."
38. *Gomphus spicatus* *Selys*. Clarence, etc. (VD.).
39. *Gomphus fraternus* *Say*. Niagara (VD.).
40. *Gomphus adelphus* *Selys*. Kenwood, June 17, 1876 (L.). "Never [*i. e.*, previously?] seen by me; 1 ♂ in Selys' coll. from A. Fitch." Hagen, 1877.
41. *Gomphus villosipes* *Selys*. Grand Is. (VD.).
43. *Dromogomphus spinosus* *Selys*. Karner, Albany Co., June 7, 1870, Hagen det. (L.).

SUBFAMILY ÆSCHNINÆ.

45. *Epiæschna heros* *Fabr.* Albany (L.). Buffalo (VD.).
46. *Boyeria** *vinosa* *Say*. Schoharie; one female, Piseco Lake, August 31, 1888, one male, Elk Lake, August 22, 1893 (P. P. Calvert det.) (L.). Colden (VD.).
48. *Æschna juncea* *L.* var. *verticalis* *Hag.* Schoharie (L.).
49. *Æschna clepsydra* *Say*. Schoharie (L.).
50. *Æschna constricta* *Say*. Schoharie (L.). Buffalo (VD.).
51. *Anax junius* *Drury*. Schoharie (L.). Buffalo (VD.).

SUBFAMILY CORDULINÆ.

53. *Epicordulia princeps* *Hagen*. Black Rock (VD.). Kenwood (L.). Albany, July 5th, within doors, by Mrs. A. Lansing; recorded by Dr. Lintner 11th Rep. State Ent. N. Y., p. 288.
54. *Tetragoneuria cynosura* *Say*. Black Rock (VD.). Staten Island, June, by Mr. W. T. Davis.
55. *Tetragoneuria semiaquea* *Burm.* Black Rock (VD.).
58. *Somatochlora tenebrosa* *Say*. Oswego Co., Aug. 23-25 (K.). Clarence (VD.).

* Mr. McLachlan has pointed out (Ann. Mag. Nat. Hist. 6, xvii, p. 424, June, 1896,) that the generic name *Fonscolombia*, proposed by de Selys in 1883, was pre-occupied by Lichtenstein for Hemiptera in 1877, and consequently suggests *Boyeria*—after Boyer de Fonscolombe—instead.

SUBFAMILY LIBELLULINÆ.

62. *Tramea carolina* L. Schoharie (L.)
63. *Tramea lacerata* Hagen. Buffalo (VD.).
64. *Libellula basalis* Say. Kenwood (L.). Niagara River, etc. (VD.).
69. *Libellula exusta* Say. One female, Croton on Hudson, May 17, 1896, by Mr. W. T. Davis.
70. *Libellula quadrimaculata* L. Schoharie; Karner, May 28, 1880, (L.). Buffalo (VD.).
71. *Libellula semifasciata* Burm. Buffalo (VD.).
72. *Libellula pulchella* Dru. Schoharie (L.). Buffalo, etc. (VD.).
73. *Plathemis trimaculata* DeGeer. Schoharie, Albany (L.). Buffalo (VD.).
74. *Micrathyria berenice* Drury. Sheepshead Bay, Long Island, July, 1889. (P. P. Calvert, det.) (L.).
77. *Celithemis eponina* Drury. Lake Bluff, Wayne Co., July 10, 1880 (L.).
78. *Leucorhinia intacta* Hag. Centre (now Karner), June 4, 1870, Hagen det (L.). Croton on Hudson, May 17, 1896, by Mr. W. T. Davis. Niagara River, etc. (VD.).
79. *Diplax rubicundula* Say. Buffalo (VD.).
81. *Diplax costifera* Hagen. Amherst (VD.).
82. *Diplax vicina* Hagen. Schoharie, Hagen det.; Piseco Lake, August 31, 1888 (P. P. Calvert det.) (L.) Buffalo, etc. (VD.).
84. *Mesothemis simplicicollis* Say. Tonawanda Creek (VD.).
85. *Pachydiplax longipennis* Burm. Black Rock (VD.).

B. SPECIES ADDED TO THE PREVIOUS LIST.

SUBFAMILY AGRIONINÆ.

86. *Lestes virgo* Hagen (sp. n.) [in MS.]. Lake Bluff, Wayne Co. (L.). (Not seen by the writer.)
87. *Lestes vigilax* Selys. "New York" (L.).
88. *Enallagma fischeri* Kellicott. Presumably Ithaca, in Cornell University Collection (K.).
89. *Enallagma geminata* Kellicott. Parish, August 24 (K.).

SUBFAMILY GOMPHINÆ.

90. *Ophiogomphus mainensis* Packard. Schoharie, Hagen 1877; Keene Valley, 1,000 feet elevation, July 6, 1892 (L.).
91. *Gomphus plagiatus* Selys. One male, Bethlehem, September, 1880 (P. P. Calvert det.) (L.).
92. *Gomphus amnicola* Walsh. Bethlehem; Hagen det. (L.).
93. *Gomphus descriptus* Banks. Ithaca, May 21, 1890; May 15, 1894; May 18, 1895. Recorded by Mr. Banks in this JOURNAL iv, p. 195.

SUBFAMILY CORDULEGASTERINÆ.

94. *Cordulegaster erroneus* Hagen. Keene Valley, 1895 (L.).

SUBFAMILY ÆSCHNINÆ.

95. *Æschna pentacantha* Ramb. Baldwinsville, Onondaga Co., June, by R. H. Pettit; recorded by Mr. Banks in Ent. News vi, p. 124.

SUBFAMILY CORDULINÆ.

96. *Macromia illinoiensis* Walsh. Grand Is., etc. (VD.).
97. *Somatochlora walshii* Scudder. One male, Keene Valley Essex Co., Aug. 5, 1889. (P. P. Calvert det.) (L.).
98. *Somatochlora linearis* Hagen. Oswego Co., August 23-25 (K.). Grand Is. (VD.).
99. *Tetragoneuria spinigera* Selys. Buffalo (VD.).

SUBFAMILY LIBELLULINÆ.

- 79a. *Diplax rubicundula* Say var. *assimilata* Uhler. "New York" (L.).

100. *Diplax obtrusa* Hagen. Keene Valley, July and August; Piseco and Elk Lakes, August (P. P. Calvert det.); Centre (L.). Recorded from Hastings, Oswego Co., August and September, by Prof. Kellicott in Ent. News, vi, p. 239. Clarence, etc. (VD.).

101. *Diplax corrupta* Hagen. One male on the sea-shore near New Brighton, Staten Island, June 27, 1896, by Mr. Wm. T. Davis, and submitted to the writer for examination. Mr. Davis recorded that the frons, base of the wings and abdomen were scarlet in life. Compare also Mr. Van Duzee's paper. This is a common western species which perhaps is extending its distribution eastward. See also Trans. Am. Ent. Soc., xx, p. 264.

Dr. Lintner also mentions four species of Agrioninæ, indicated as new by Dr. Hagen, but these the writer has not seen.